

|                       |   |                  |  |
|-----------------------|---|------------------|--|
| Customer              | : CU-DAR001 Dart Helicopters Services   | Drawing Name     | : VALVE ASSEMBLY (1/4")                          |
| Job Number            | : 38056   |                  |  |
| Estimate Number       | : 10962   |                  |  |
| P.O. Number           | :   | Part Number      | : D20014   |
| This Issue            | : 3/17/2008      S.O. No. :   | Drawing Number   | : D2001 REV C                                    |
| Prsht Rev.            | : NC  | Project Number   | : N/A  |
| First Issue           | : / /      Type : PURCHASED PARTS   | Drawing Revision | : C  |
| Previous Run          | : 34235   | Material         | :  |
| Written By            | :  | Due Date         | : 3/24/2008      Qty:      12      Um:      Each |
| Checked & Approved By | :  |                  |  |
| Comment               | : Est. A 04.07.06      New Issue KJ/RF  |                  |  |

Job Number:

|     |    |            |
|-----|----|------------|
| 1.0 | PG | PURCHASING |
|-----|----|------------|

Issue P/O: 5933  
P/N: 76-101-32 (1/4 NPT)  
Possible Supplier: Flo-Control Inc.  
Material release note is required

|     |         |       |
|-----|---------|-------|
| 2.0 | 7610132 | VALVE |
|-----|---------|-------|

Comment: Qty.: 1.0000 Each(s)/Unit Total : 12.0000 Each(s)  
VALVE

|     |             |                       |
|-----|-------------|-----------------------|
| 3.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|-----|-------------|-----------------------|

Comment: PACKAGING RESOURCE #1  
Recieve & Inspect for Transit Damage  
Ensure Material Release Note is attached

4.0 QC6 DIMENSIONAL CHECK

**Comment: DIMENSIONAL CHECK**

|     |             |                               |
|-----|-------------|-------------------------------|
| 5.0 | SMALL FAB 1 | SMALL & MEDIUM FAB RESOURCE 1 |
|-----|-------------|-------------------------------|

Comment: SMALL & MEDIUM FAB RESOURCE 1

1- Remove existing ID numbers and replace with Dart P/N & B/N

2- will Don as per attached. Day and email from JAN. 9<sup>th</sup>, 2008.

ml 08/04/01 x12

080402

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Monday, 3/17/2008 12:00:05 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: VALVE ASSEMBLY (1/4")

Job Number: 38056

Part Number: D20014

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 08/04/03 (X12)

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 5T2

AS 08/04/03

(X12)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/04/04 (X12)

Job Completion



U 08-04-03

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

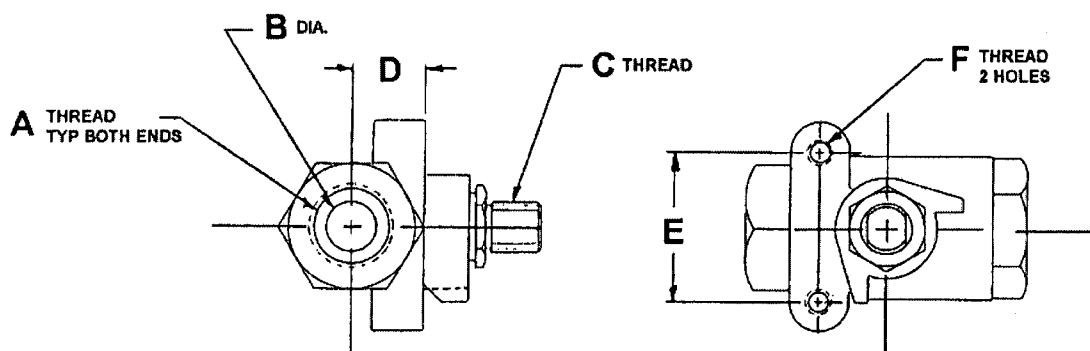
**NOTE:** Date & initial all entries



|                               |                                |   |                        |
|-------------------------------|--------------------------------|---|------------------------|
| DESIGN<br><i>RT</i>           | DRAWN BY<br><i>RT</i>          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br><i>[Signature]</i> | APPROVED<br><i>[Signature]</i> | DRAWING NO.<br>D2001                              | REV. C<br>SHEET 1 OF 1 |
| DATE<br>04.07.06              |                                | TITLE<br>VALVE ASSEMBLY                           | SCALE<br>NTS           |
| -                             | 90.04.02                       | NEW ISSUE   |                        |
| A                             | 92.05.12                       | -043 ADDED  |                        |
| B                             | 96.04.10                       | DART P/N CHG,041-6,042-12,ADD -16                 |                        |
| C                             | 04.07.06                       | ADD D2001-4                                       |                        |

RELEASED  
04.09.09

## SPECIFICATION CONTROL DRAWING



| Dart P/N | Apollo P/N | A       | B     | C          | D    | E     | F         |
|----------|------------|---------|-------|------------|------|-------|-----------|
| D2001-4  | 76-101-32  | 1/4 NPT | 0.370 | 3/8-24 NF  | 0.56 | 1.120 | 10-24 UNC |
| D2001-6  | 76-102-01  | 3/8 NPT | 0.370 | 3/8-24 NF  | 0.56 | 1.120 | 10-24 UNC |
| D2001-8  | 76-103-01  | 1/2 NPT | 0.500 | 3/8-24 NF  | 0.60 | 1.120 | 10-24 UNC |
| D2001-12 | 76-104-01  | 3/4 NPT | 0.680 | 7/16-20 NF | 0.79 | 1.370 | 10-24 UNC |
| D2001-16 | 76-105-01  | 1 NPT   | 0.870 | 7/16-20    | 0.99 | 1.370 | 10-24 UNC |

### NOTES:

- 1) POSSIBLE SUPPLIER: FLO-CONTROL INC. OR APOLLO VALVE DIVISION
- 2) DISCARD HANDLE AND ATTACHING NUT, EXCEPT FOR D2001-4
- 3) CHECK DIMENSION SHOWN ON THIS DRAWING
- 4) REFERENCE INFORMATION:

MATERIAL: 316 STAINLESS STEEL  
INVESTMENT CAST COMPONENTS  
MEETS NACE-MR-01-75  
MEETS WW-V-35C TYPE II, COMP SS, STYLE 3  
PRESSURE RATING: 2000 PSI @ 100°F  
150 PSI @ 400°F

- 5) IDENTIFY WITH DART P/N & B/N USING FINE POINT PERMANENT INK MARKER

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Conbraco Industries, Inc.  
701 Matthews Mint Hill Rd.  
Matthews, NC 28105  
(704) 847-9191



Page: 1

Plt(s) STC Pcs

| Sold to:   |                 | Ship To:  |                  | ** REPRINT **  |                          |                                 |
|--|-----------------|---|------------------|--|--------------------------|---------------------------------|
| FLO-CONTROL INC<br>80 CENTER RD<br>CARTERSVILLE<br>UNITED STATES |                 | DART AEROSPACE<br>MAIN FINISHED GOOD LOC<br>1270 ABERDEEN ST<br>HAWKSURY<br>UNITED STATES |                  | Pieces: 1<br>Weight: 8.60<br>PPD/COL: C<br>Packed By: KEONK<br>Pack Date: 3/20/08<br>Shipped By: KENNETH T<br>Ship Date: 3/25/08<br>PRO#<br>ASN# |                          |                                 |
| Customer Number:   | Customer Order: | Order Number:   | Date Received:   | Salesman:  | Ship Via/Instructions:   |                                 |
| 01004667   | 59889           | C311920   | 3/18/08          | 4  | FG01 FDX ACCT# 151793240 |                                 |
| Line Number  | Part Number     | Part Description  | Quantity Ordered | Quantity Shipped   | Unit                     | Customer Part Number / Comments |
| 1000   | 7610132A        | BV, 1/4"NPT, SS, SS TEE HNDL  | 12               | 0  | EA                       |                                 |
| 1049   | CERTIF01        | CERTIFICATE OF COMPLIANCE   | 1                | 0  | EA                       | C OF C AND NAFTA CERT           |
|  |                 | SHIPPING LOCATION: PAGELAND DISTRIBUTION CENTER<br>1418 S. PEARL ST.                      |                  |  |                          | PAGELAND, SC 29728              |

PACKING SLIP



**Marc Bellavance**

**From:** Roberto Fuentes [rfuentes@dartaero.com]  
**Sent:** January 9, 2008 11:23 AM  
**To:** 'Marc Bellavance'  
**Cc:** David Shepherd  
**Subject:** RE: D2001

Hi Marc,

David and I found no problem with this modification manufacture need to do, but we suggest this modification need to reflect in the drawing as an option since this is inconsistent problem.

Roberto

---

**From:** Marc Bellavance [mailto:mbellavance@dartaero.com]  
**Sent:** Wednesday, January 09, 2008 7:28 AM  
**To:** 'Roberto Fuentes'  
**Subject:** RE: D2001

See pictures attached.

Thanks!

**Marc Bellavance**  
**Mechanical Designer/Technical Support**

***DART*** aerospace Ltd.

Tel: 613-632-5200 Ext. 240  
Fax: 613-632-9311  
E-mail: [mbellavance@dartaero.com](mailto:mbellavance@dartaero.com)  
Web: [www.dartaero.com](http://www.dartaero.com)

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**From:** Roberto Fuentes [mailto:rfuentes@dartaero.com]  
**Sent:** January 8, 2008 5:13 PM  
**To:** 'Marc Bellavance'  
**Subject:** RE: D2001

Hi Marc,

I got both e-mail. Send me the picture of the interference when you have a chance.

Roberto

---

**From:** Marc Bellavance [mailto:mbellavance@dartaero.com]  
**Sent:** Tuesday, January 08, 2008 12:45 PM  
**To:** 'Fuentes, Roberto'  
**Subject:** FW: D2001  
**Importance:** High

Roberto,

09/01/2008

I don't know if you had a chance to reply to the e-mail below.

I just found out (thanks to David) that when George changed my computer, my e-mail address was not setup properly ([mbellanance@dartaero.com](mailto:mbellanance@dartaero.com) in stead of [mbellavance@dartaero.com](mailto:mbellavance@dartaero.com)). Can you please resend your response at the correct e-mail address by replying to this e-mail?

Thanks and sorry for the inconvenience.

**Marc Bellavance**  
**Mechanical Designer/Technical Support**

***DART aerospace Ltd.***

Tel: 613-632-5200 Ext. 240

Fax: 613-632-9311

E-mail: [mbellavance@dartaero.com](mailto:mbellavance@dartaero.com)

Web: [www.dartaero.com](http://www.dartaero.com)

**From:** Marc Bellavance [mailto:[mbellanance@dartaero.com](mailto:mbellanance@dartaero.com)]

**Sent:** January 8, 2008 11:07 AM

**To:** 'Fuentes, Roberto'

**Subject:** D2001

Hi Roberto,

Please take a look at the attached drawing:

QC reported that the orientation of the left hexagonal fitting press fitted into the valve housing is inconsistent. Results, when trying to assemble the valve on the heater, there is some interference. They are asking if the parts would be acceptable if machined down as indicated per the provided sketches. I don't see a problem with that. Do you?

**Marc Bellavance**  
**Mechanical Designer/Technical Support**

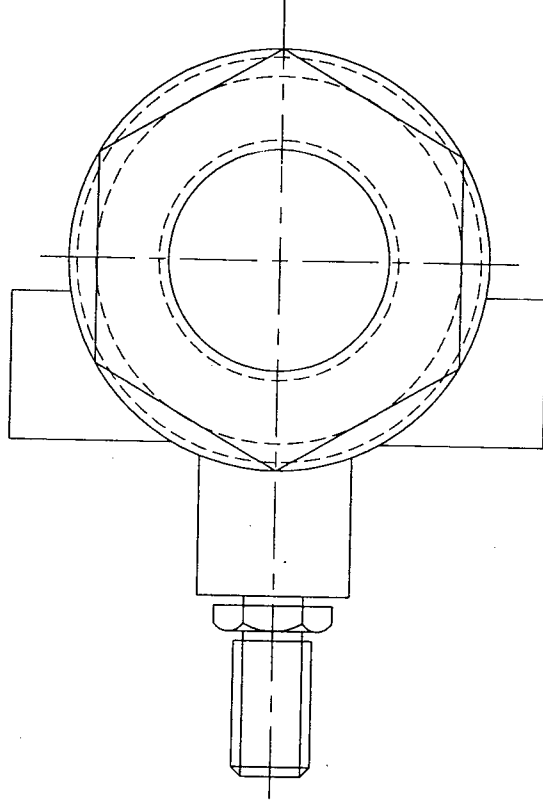
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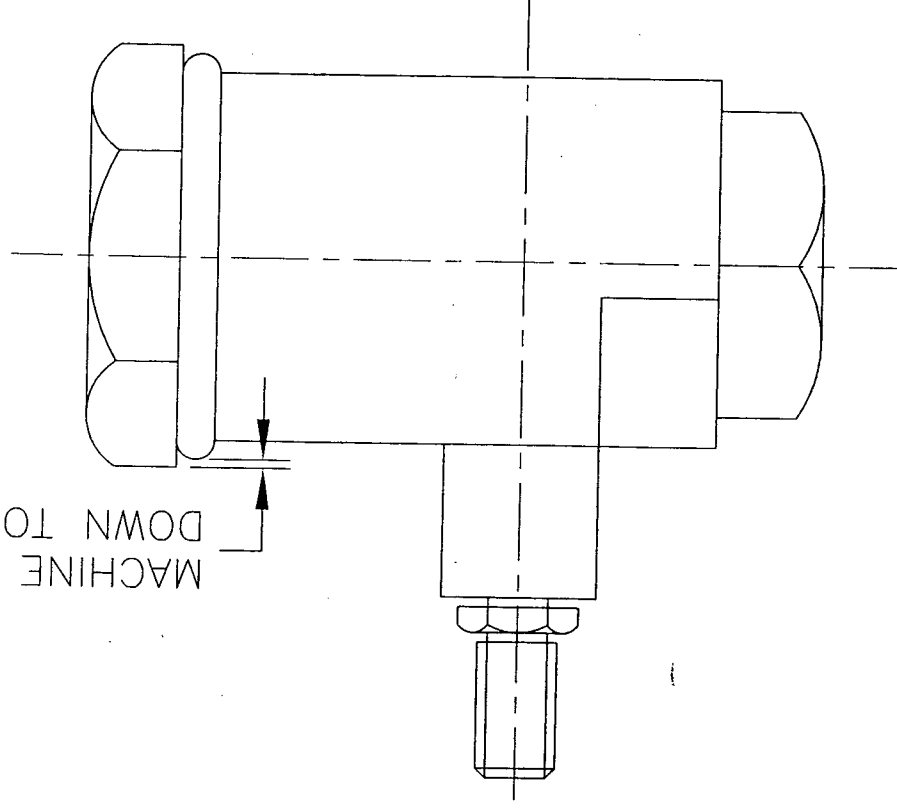
Fax: 613-632-9311

E-mail: [mbellavance@dartaero.com](mailto:mbellavance@dartaero.com)

Web: [www.dartaero.com](http://www.dartaero.com)



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